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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,376	01/05/2004	Gerrit Willem Hiddink	2	2650

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EXAMINER

VO, NGUYEN THANH

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/751,376	HIDDINK, GERRIT WILLEM	
	Examiner	Art Unit	
	Nguyen T. Vo	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-16 and 18-24 is/are rejected.
- 7) ☒ Claim(s) 5, 17 and 25 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 7, 10, 12-13, 15, 18, 21, 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamao (5,203,024, cited by examiner).

As to claim 1, Yamao discloses a wireless communication device (see figure 2), comprising a plurality of antennas 1 and 2; and a predictive antenna selector 7-10 that evaluates a signal quality of each of said plurality of antennas and selects an antenna to communicate one or more frames based on said signal quality evaluation (see column 3 line 58 to column 5 line 2).

As to claims 3, 12, 15, see Yamao, column 3 line 65 to column 4 line 30; column 4 line 67 to column 5 line 2.

As to claims 7, 18, see Yamao, column 3 line 65 to column 4 line 18.

As to claims 10, 21, see Yamao, column 3 line 65 to column 4 line 18; column 8 lines 46-53.

As to claims 13 and 23, they are rejected for the same reasons as set forth in claim 1.

3. Claims 1-2, 4, 6-7, 8, 10-14, 16, 18-19, 21-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Li (US 2004/0266375, cited by examiner).

As to claim 1, Li discloses a wireless communication device (see figure 1), comprising a plurality of antennas A0-A3; and a predictive antenna selector 34 that evaluates a signal quality of each of said plurality of antennas and selects an antenna to communicate one or more frames based on said signal quality evaluation (see paragraphs [0017]-[0020], [0021]-[0024]).

As to claims 2, 14, see Li, paragraphs [0020]-[0021].

As to claims 4, 6, 16, 24, see Li, paragraphs [0031] and [0033].

As to claims 7, 18, Li would inherently include a table as claimed to record the signal quality of each antenna so that they can compared with each other as disclosed at paragraphs [0022] and [0023].

As to claims 8, 19, see Li, paragraph [0035].

As to claims 10, 21, see Li, paragraph [0026].

As to claims 11, 22, see Li, paragraph [0021].

As to claim 12, see Li, paragraphs [0020], [0026].

As to claims 13, 23, they are rejected for the same reasons as set forth in claim 1 above.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamao in view of Taira (US 2001/0001760, cited by examiner).

As to claims 2, 14, Yamao fails to disclose evaluating signal quality of each antenna during a preamble portion of a frame as claimed. Taira discloses evaluating signal quality of each antenna during a preamble portion of a frame (see paragraph [0065]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Taira to Yamao, in order to select a desired antenna as soon as possible.

6. Claims 8-9, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamao.

As to claims 8-9, 19-20, Yamao fails to disclose evaluating signal quality of each antenna in a round robin manner as in claims 8 and 19, or in a random order as in claims 9 and 20. Those skilled in the art, however, would have appreciated that the above claimed limitations would not render the claims patentable over Yamao, because it would merely depend on which antennas are evaluated first, second and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Yamao as claimed, in order to provide flexibility on the order of evaluating the plural antennas.

7. Claims 9, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li.

As to claims 9, 20, Li fails to disclose evaluating signal quality of each antenna in a random order as claimed. Those skilled in the art, however, would have appreciated that the above claimed limitations would not render the claims patentable over Li, because it would merely depend on which antennas are evaluated first, second and so on. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Li as claimed, in order to provide flexibility on the order of evaluating the plural antennas.

Allowable Subject Matter

8. Claims 5, 17 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 5, 17 and 25, the applied references fail to disclose or render obvious that said predefined criteria evaluates whether a signal quality of a given antenna is below a signal quality of a remainder of said plurality of antennas by a predefined amount, as specified in the claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rozanski (5,530,926); Laroia (7,039,370); Todd (6,118,773) and Hoo (US 2005/0186921) disclose antenna diversity.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nguyen Vo

Nguyen Vo
7-9-2006

NGUYEN T. VO
PRIMARY EXAMINER